

10/801,073

-2-

pressures. If there is inadequate correlation between oscillations in the static and differential pressures, then an alarm signal is generated indicating line plugging. Still another known method for detecting  
5 line plugging is to sense static pressures and pass them through high pass and low pass filters. Noise signals obtained from the filters are compared to a threshold, and if variance in the noise is less than the threshold, then an alarm signal indicates that the  
10 line is blocked.

These known methods use techniques which can increase the complexity and reduce reliability of the devices. There is thus a need for a better diagnostic technology providing more predictive, less reactive  
15 maintenance for reducing cost or improving reliability.

#### SUMMARY OF THE INVENTION

A pressure transmitter diagnoses the condition of its primary element and/or its impulse  
20 lines. A difference circuit coupled to the differential pressure sensor generates a difference output representing the sensed pressure minus a moving average of the sensed differential pressure. Diagnostics are based upon this determination.

#### BRIEF DESCRIPTION OF THE DRAWINGS

25 FIG. 1 is an illustration of a typical fluid processing environment for a diagnostic pressure transmitter.

30 FIG. 2 is a pictorial illustration of an embodiment of a differential pressure transmitter used in a fluid flow meter that diagnoses the condition of its impulse lines and/or primary element.

MR

4-18-7